

2002 Macroinvertebrate Data									
Synopsis of Final Report Analysis									
Stream	Station	Habitat Assessment Scores (%)	Total Bioassessment Scores	Mean Biotic Index Value	Support of Designated Uses	Biotic Integrity Impairment	Comments	Potential Impairments	Potential Causes
WEST GALLATIN RIVER	Highway 191	91	67	4.26	PARTIAL	SLIGHT	All expected functional components of a healthy riverine system were present in proportions expected for a riverine system.	Minimal alterations to habitat on a large scale. Reach-scale disturbances to riparian zone function, streambank stability, natural channel morphology. Mild nutrient enrichment limiting instream habitats amply available, but perhaps monotonous. Fine sediment deposition.	Fishing access. Highway. Irrigation canal diversions upstream (Gillmor-Todd Ditch, Kleindschmidt Canal).
	Williams Bridge	89	67	3.12	PARTIAL	SLIGHT	Water quality probably within expectations for a riverine site and somewhat better than at the upstream site near Hwy 191 bridge. Reach-scale habitat features	Minor sediment deposition. Minor monotonous instream habitats. Reach-scale disturbances.	Natural. Narrowed riparian habitat. Agricultural land use.
	Axtell Bridge	86	67	3.43	PARTIAL	SLIGHT	Sediment deposition does not seem to have had a major impact on substrate habitat availability. Taxa richness depressed, perhaps because of monotonous instream habitats.	Channel modification (Riprap). Gravel road. Bridge. Low-density "ranchette" development (loss of riparian habitat). Irrigation diversions. Natural conditions. Other unknown habitat elements.	
	Shedds Bridge	74	67	*1.92 / 4.48	PARTIAL	SLIGHT	*The biotic index value appears to represent a precipitous change from that of sites upstream. Calculation skewed by overwhelming dominance of <i>Lepidostoma</i> sp. Refiguring of this metric excluding this caddisfly increases the biotic index to 4.48. A single warm-water caddisfly taxon, <i>Helicopsyche borealis</i> appeared at this site. Water quality, overall, appropriately good for a large river.	Fine sediment deposition may limit the availability of hard benthic substrate for colonization. Taxa richness low potentially due to monotonous instream habitats. Disruption of reach-scale habitat features.	
	Central Park	79	67	*2.63 / 4.45	PARTIAL	SLIGHT	*Replicates overwhelmed by caddisfly <i>Lepidostoma</i> . Metric recalculation excluding this caddisfly increases biotic index to 4.45. Temperature appears to have warmed compared to upstream sites with the presence of 5 taxa that prefer warm water.	Fine sediment deposition did not appreciably contaminate benthic substrate habitats. Disturbances to reach-scale habitat features. Warm water.	Agricultural activities. Natural conditions. Irrigation diversions. Channel modifications (anthropogenic). Natural channel morphology. Other unknown habitat elements.
	Logan	77	44	3.63	PARTIAL	MODERATE	Taxa preferring warm water were dominant at this site. The benthic assemblage at this site was completely different from any other collected in this study both taxonomically and functionally. Overall taxa richness was high, but predatory taxa was neither diverse nor abundant. This presents contradictory evidence regarding diversity and availability of instream habitat--no conclusion can be drawn. Functionally, there is a dramatic shift from shredder dominance to scraper	Warm water. Minor nutrient enrichment. Minor fine sediment deposition. Reach-scale habitat disturbances.	Algal film growth due to warm water. Reduced shading due to lack of loss of riparian cover. Channel modification (rip rap). Upstream road crossings. Natural channel morphology. Residential development (Logan) with septic.
S. COTTONWOOD CR.	Trail Bridge	97	100	2.95	FULL	NONE	Site supports a sensitive, diverse, cold-water assemblage characteristic of minimally disturbed montane streams. Minimum of 8 cold-stenotherm taxa present. Cold water, unimpaired by nutrients or other pollutants appears to have been the rule here. Benthic substrate habitats appear unimpaired by fine sediment deposition. Abundant and available assortment of other habitat as well. Functional composition contained all expected components of a healthy montane stream community.	None.	None.
	Law Road	74	61	2.28	PARTIAL	SLIGHT	Water quality essentially good at this site. Single stenotherm taxa collected.	Slight elevation in water temperature. Minor fine sediment deposition; probably not a significant limitation to benthic community integrity. Reach-scale disturbances possible but unclear.	Stream-side horse grazing/pasturing. Manure. Irrigation diversions. Low-density "ranchette" development. Loss of/impacted riparian zone. Gravel road and road crossings (bridges/culverts). Natural conditions.
	Gooch Hill Rd	56	22	5.17	NON-SUPPORT	MODERATE	Assemblage produced the lowest bioassessment scores of all sites in this study. No cold stenotherms and no sensitive taxa collected. Functional mix skewed toward filter-feeders implies an ample supply of fine organic particulates is the major energy source for the invertebrate community.	Warm water. Nutrient enrichment. Limited benthic habitat due to fine sediment deposition. Monotonous instream habitats. Low/intermittent stream flow. Reach-scale habitat disturbances.	Dewatering (potential perennial challenges to biotic integrity). Motorized vehicle (ATV, dirt bike) stream crossing. Horse pasture/grazing access. Streamside "Ranchette" development. Cropping/agriculture.